

Take Multiple Measures to Promote The Construction of wisdom classrooms and Speed up The Pace of Educational Informationization in Colleges and Universities

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Abstract

The core of building a first-class university is to cultivate first-class talents, and the classroom is the main place for teachers to teach and students to learn. As information technology develops, conventional classroom teaching and experimental teaching have been difficult to cultivate talents who can adapt to the new era and new environment. In this work, the present situation of the construction of wisdom classroom in Southwest Petroleum University is analyzed, and the countermeasures for the construction of wisdom classroom in our university are put forward. It is hoped that our university can take more measures to speed up the construction of wisdom classrooms and promote the deep integration of information technology and education and teaching, and thus, providing a guarantee for the classroom teaching revolution of our university.

Keywords

Wisdom classroom; Classroom construction; Construction status; Countermeasures.

1. General Information

In 2018, the National Education Conference and the first National Conference on Undergraduate Education of Higher Education in the New Era were held, and a number of policies on higher education were issued. [1] In addition, General Secretary Xi, Minister Chen Baosheng and Director Wu Yan of the Ministry of Education made a lot of important instructions on higher education. But all of these, without exception, emphasize the need to use "Internet + education", the deep integration of information technology and education and teaching to promote the revolution in classroom teaching, whether it is China's Education Modernization 2035, The Implementation Plan for Accelerating Educational Modernization (2018-2022), or 40 Higher Education in the New Era, and regardless of the important speech of General Secretary Xi, or the speeches of Minister Baosheng and Director Wu Yan. [2] These undoubtedly inject a booster into the construction of wisdom classrooms, so the construction of wisdom classrooms in colleges and universities across the country is springing up like bamboo shoots after a spring rain.

We have conducted on-the-spot investigation and research in 9 colleges and universities in Sichuan by means of on-site visits to some colleges and universities, telephone consultation, and discussions with wisdom classroom construction businessmen, consulted some colleges and universities inside and outside the province by telephone, and conducted program discussions and discussions with a number of wisdom classroom construction companies. Moreover, the number, type, usage, and problems existing in the construction process of wisdom classrooms have been focused on. Its basic situation is as follows.

2. Analysis of Research Results

2.1. The Number and Level of Wisdom Classrooms in Colleges and Universities Vary from One to Another

According to the summary of the survey, it is obvious that colleges and universities are actively carrying out the construction of wisdom classrooms, especially in the past three years. The number and function of wisdom classrooms in colleges and universities are increasing rapidly, but they are uneven. In terms of quantity, some colleges and universities have hundreds of wisdom classrooms, some have only a few, or even zero. From a functional point of view, some colleges and universities have many types of wisdom classrooms, while others are less. For example, a series of colleges and universities including Sichuan University, University of Electronic Science and Technology, Southwestern University of Finance and Economics, Southwest Jiaotong University, Chengdu University of Traditional Chinese Medicine, etc. have established multi-screen group discussion type, multi-window interactive intelligent type, network interactive intelligent type and other types of wisdom classroom, and Chengdu University of Traditional Chinese Medicine has also built a high-end AR/VR wisdom classroom (virtual reality/augmented reality wisdom classroom). [3] Sichuan University has the largest number of wisdom classrooms, totaling more than 500, and the types and functions of wisdom classrooms are relatively complete.

2.2. The Construction of Wisdom Classrooms Requires A Large Investment and A Long Cycle

The wisdom classroom is very different from the traditional classroom. It not only requires the classroom to have full coverage of wired and wireless networks, but also requires the classroom to be redecorated and spatial layout, so as to facilitate students to use mobile phones and laptops to consult materials in class and interact with teachers in a timely manner. At the same time, classroom seats are required to be movable, interactive display screens are required to facilitate students' group discussion, and teaching platforms and teaching software are required to meet the needs of citing the courses and resources already created in the web-based learning platform system in the teaching process. to achieve participation, inquiry, discussion and other teaching methods, these are the most basic configuration of the wisdom classroom. Therefore, the investment in the construction of wisdom classrooms ranges from hundreds of thousands to millions, and the requirements of classroom decoration are high, and the construction cycle is also long.

2.3. The Use of Wisdom Classrooms Improves the Quality of Classroom Teaching

The wisdom classroom provides a variety of teaching equipment for the classroom and realizes a variety of teaching modes. Students are allowed to consult the rich teaching resources on the teaching platform through tablet computers and mobile phones, carry out group discussions, realize inquiry and cooperative learning, and let students participate in classroom teaching activities, which not only arouses students' learning enthusiasm, but also stimulates students' interest in learning. The wisdom classroom provides interactive opportunities for classroom teaching, such as screen interaction, screen broadcasting, classroom quizzes, classroom questions and so on. Through these interactions, teachers can keep abreast of the students' mastery of the teaching content, find out whether the students have encountered difficulties and misunderstandings in their learning, and adjust the teaching content and progress in time to make the teaching more efficient and more targeted. The wisdom classroom can also grasp the classroom performance of students in the form of check-in, voting and screen monitoring, so as to form an accurate, comprehensive and objective evaluation of students' learning effect,

breaking the traditional teaching that only pays attention to examination scores and ignores the evaluation of students' usual performance. These reforms of teaching methods, assessment and evaluation have improved the quality of classroom teaching. [4]

3. Challenges in the Construction of Wisdom Classrooms

3.1. There Is No Unified Standard for the Construction of Wisdom Classrooms

So far, there is no unified standard for the construction of wisdom classrooms. In 2018, the *Smart Campus Construction Framework* was issued, but the architecture, elements, contents and judgment criteria of the wisdom classroom were not clearly defined. The release of their own wisdom classroom solutions and construction standards are also based on commercial interests; colleges and universities combine all kinds of teaching equipment according to their classroom construction habits, decorate and layout the classroom environment according to their preferences; scientific and normative is out of the question. The wisdom classroom is still in a disorganized state in terms of design standards. [5]

3.2. It Is Difficult to Raise Funds for the Construction of Wisdom Classrooms

The survey confirmed that the original 985 and 211 colleges and universities have relatively abundant funds because of the large investment by the state. On the contrary, the construction of wisdom classrooms requires a large investment, and many colleges and universities across the country worry about the funds for the construction of wisdom classrooms, which affects the scale of smart construction to a certain extent.

3.3. The Use of Wisdom Classrooms Is Not Satisfactory

The use of wisdom classroom has changed the traditional teaching methods, it requires teachers to master the operation of classroom equipment, more is that it must be accompanied by teaching reform, as well as re-preparation for teaching. It is inseparable from teachers' classroom teaching design, the overall consideration of students' pre-class preview, classroom interactive teaching and after-class review, re-preparation of lessons, re-making courseware, a huge workload. On the other hand, many colleges and universities do not have appropriate incentive policies to encourage teachers to carry out teaching information research and practice, resulting in a lack of motivation for teachers to take the initiative to carry out reform. To make matters worse, some university teachers do not fully master the means of information technology, the ability of the integration of information technology and teaching is not strong, subjective unwillingness plus objective ability is limited. As a result, even if the school has a better classroom environment, it is difficult to play its due role.

4. Countermeasures

In the examination and evaluation of undergraduate teaching in our university in 2018, experts pointed out that the construction of wisdom classroom in small class is insufficient to meet the needs of classroom teaching mode reform in the new era. This suggests that the construction of the wisdom classroom in our university is extremely urgent to meet the rectification and reform "looking back" inspection of the Ministry of Education this year.

4.1. Increase the Number of Classrooms to Provide Basic Conditions for the Construction of Wisdom Classrooms

The data of undergraduate teaching audit and evaluation materials of our university in 2018 show that there are a total of 354 classrooms of various types, of which the total number of classrooms in Xindu campus is about 30000, which implies that the total number of classrooms is too small. In addition, their layout structure is traditional and the seats are fixed. In order to

meet the needs of classroom teaching reform such as discussion, grouping and participation, wisdom classrooms often need small class teaching, which has certain requirements on the number of students, classroom layout and size. The original multimedia classroom which can hold 100 people can accommodate up to 60 people after it is changed into a wisdom classroom, so the reconstruction of the wisdom classroom will inevitably aggravate the shortage of classroom resources. Under the existing conditions, the school is advised to carefully sort out the room usage of the existing classrooms, laboratories and offices, and consolidate the rooms with low usage rate. Only by converting more rooms in Sixue Building, Boxue Building and Siming Buildings into classrooms can the problem of reducing the number of classroom seats due to the construction of wisdom classrooms be alleviated.

4.2. Take Multiple Measures at the Same Time to Provide Financial Support for the Construction of Wisdom Classrooms

The construction of wisdom classroom is a systematic project, which requires not only the purchase of system software, but also the transformation of hardware environment. Simply put, it not only has a high technical threshold, a long construction cycle, but also a large capital investment. A fully functional wisdom classroom requires an investment of millions, a general one needs hundreds of thousands of investment, and the most basic one needs more than 200,000 yuan. Take a 985 university as an example, it has invested hundreds of millions of dollars to build wisdom classrooms, so that it has today's scale. As another example, a 211 university can only build 50 wisdom classrooms with a single investment of 22 million yuan.

With regard to the current funding situation of our university, in addition to actively striving for financial investment, we also need to take more measures and collect funds to build wisdom classrooms in many ways; for example, to win the support of local governments, alumni and enterprises in science and technology parks; or to carry out school-enterprise cooperation. School-enterprise cooperation is an important form to realize "complementary advantages, resource sharing, mutual benefit and common development" between enterprises and schools. The way of building a wisdom classroom with the school enables the actual application of the teaching software and hardware products produced by the enterprise. In the process of using wisdom classroom for teaching, teachers and students will put forward all kinds of requirements for the teaching mode of the current wisdom classroom and put forward opinions and suggestions on enterprise teaching products. These suggestions from the front line of teaching are more conducive to enterprises to improve intelligent teaching products so that they can better meet the diverse teaching needs of teachers and students. The continuous improvement of the products will make the enterprise products more adapted to the education market.

4.3. Make Full Use of Existing Resources, Build in Batches and Categories, And Increase the Number of Wisdom Classrooms

The school has 3 wisdom classrooms in Mingli Building and 88 interactive large-screen classrooms in Sixue Building, which already have some basic conditions for interactive teaching. The first batch of the school can build these 91 multimedia classrooms into wisdom classrooms, and only need less funds to add the most basic software and hardware facilities required by wisdom classrooms, and the number of wisdom classrooms can be increased to more than 100 as soon as possible.

4.4. Take Incentive Measures to Improve Teachers' Information Literacy and Give Full Play to The Role of Wisdom Classroom

At present, the number of wisdom classrooms in our university is relatively small, only 3. However, school incentive policy, teachers' information literacy, wisdom classroom management and other reasons lead to the existing wisdom classroom does not really maximize

its role, so it is necessary for schools to take multi-channels and multi-means to stimulate teachers' greatest enthusiasm for reform. For example, financial support for teachers of informatization courses should be provided, and the construction of informatization reform courses should continue to be carried out by project establishment; teachers who adopt new teaching methods should be granted preferential encouragement in awards and evaluation, teaching assessment, remuneration distribution, etc.; the evaluation method of course teaching should be reformed to meet the needs of information-based teaching; the training of teachers' teaching ability under the environment of information technology should be further strengthened through expert reports, online learning, and special training; and policy support and training opportunities to improve information literacy should be provided for more teachers to carry out a classroom teaching revolution.

5. Conclusion

Wisdom classroom is a system integration project, which requires not only the software system, but also the hardware environment. For colleges and universities, multiple measures should be taken to build wisdom classrooms, speed up the pace of informationization of school education, and explore effective ways to promote the deep integration of information technology and classroom teaching, promote personnel training and explore effective ways.

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